

Notice of Allowability

Application No.

09/404,940

Examiner

Kelvin E Booker

Applicant(s)

TOYAMA, KENTARO

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed May 12, 2004.
2. ☒ The allowed claim(s) is/are renumbered claims 1-28 (original claims 2, 3, 30 and 31 have been canceled).
3. ☒ The drawings filed on 23 September 1999 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

1. **Renumbered claims 1-28** are allowed (e.g., original claims 1, 4-29, 31 and 32).

Original claims 2, 3, 30 and 31 have been canceled (see paper no. 25).

2. The following is an examiner's statement of reasons for allowance:

As per independent claims 1, 9, 13, 19, 22 and 25, the cited prior art fails to explicitly teach of a computer-implemented method for training a neural network to provide an aesthetic determination of images, wherein an image and the corresponding aesthetic value is used as inputs to train the neural net; an aesthetic score is generated and outputted by the trained neural network based upon the image and related input values; and a recommendation to improve the aesthetic score for the image is provided based upon a gradient ascent.

Burges, U.S. Patent No. 6,112,195, teaches of using a support vector machine (SVM) to recognize, map and translate variances within input images respective of predetermined stored database images, but fails to focus on generating an aesthetic score for each image, and providing a recommendation to improving the score.

Jagielski, "*An Application of Neural Networks to Emulation of Aesthetic Judgments*", and Yasuda et al., "*Aesthetic Design System of Structures Using Neural Network and Image Database*", teach of using input images and structural design criteria to train neural networks to recognize images and structural characteristics, respectively,

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whereby the trained system is then used to classify images based upon predetermined aesthetic preferences. However, the references fail to focus on generating an aesthetic score for each image, wherein a recommendation is later provided for improving an image or design score.

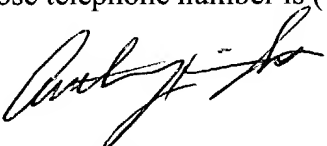
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. An inquiry concerning this communication or earlier communications from the examiner should be directed to Kelvin Booker whose telephone number is (703) 308-4088. The examiner can normally be reached on Monday-Friday from 7:00 AM-5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight, can be reached on (703) 308-3179. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

An inquiry of a general nature or relating to the status of this application proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Anthony Knight
Supervisory Patent Examiner
Group 3600

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July 21, 2004